

**DECLARATION AND POWER OF ATTORNEY
UNDER 35 USC § 371(c)(4) FOR
PCT APPLICATION FOR UNITED STATES PATENT**

As a below named inventor, I hereby declare that:
my residence, post office address and citizenship are as stated below under my name;

I verily believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought, namely the invention entitled:

A LIQUID CRYSTAL ALIGNMENT AGENT AND LIQUID CRYSTAL DEVICE USING THE LIQUID
CRYSTAL ALIGNMENT AND METHOD FOR ALIGNMENT OF LIQUID CRYSTAL MOLECULES
described and claimed in international application number PCT/JP99/04575 filed on August 25, 1999

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations §1.56.

Under Title 35, U.S. Code §119, the priority benefits of the following foreign application(s) filed by me or my legal representative or assigns within one year prior to my international application are hereby claimed:

Japanese Patent Application No. Hei 10-240491 filed on August 26, 1998

The following application(s) for patent or inventor's certificate on this invention were filed in countries foreign to the United States of America either (a) more than one year prior to my international application, or (b) before the filing date of the above-named foreign priority application(s)

I hereby appoint the following as my attorneys of record with full power of substitution and revocation to prosecute this application and to transact all business in the Patent Office:

8 James A. Oliff, Reg.No. 27,075; William P. Berridge, Reg.No. 30,024;
Kirk M. Hudson, Reg.No. 27,562; Thomas J. Pardini, Reg.No. 30,411;
Edward P. Walker, Reg.No. 31,450; Robert A. Miller, Reg.No. 32,771;
Mario A. Costantino, Reg.No. 33,565; and Stephen J. Roe, Reg.No. 34,463.

ALL CORRESPONDENCE IN CONNECTION WITH THIS APPLICATION SHOULD BE SENT TO OLIFF & BERRIDGE, PLC, P.O. BOX 19928, ALEXANDRIA, VIRGINIA, 22320, TELEPHONE (703) 836-6400.

I hereby declare that I have reviewed and understand the contents of this Declaration, and that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

100	Typewritten Full Name of Sole or First Inventor	<u>Yukihiro</u>	<u>MIYAMA</u>
	Given Name	<u>Yukihiro Miyama</u>	Middle Initial
	**Inventor's Signature		Family Name
	** Date of Signature	<u>February</u>	<u>16</u>
		Month	Day
	Residence	<u>Funabashi-shi</u>	<u>Chiba</u>
	City		State of Province
	Citizenship	<u>Japanese</u>	<u>Japan</u>
			Country
	Post Office Address	<u>c/o Nissan Chemical Industries, Ltd. Central Research Institute, 722-1, Tsuboi-cho,</u>	
	(Insert complete mailing address, including country)	<u>Funabashi-shi, Chiba 274-8507, Japan</u>	

*Note to Inventor: Please sign name on line 2 exactly as it appears line 1 and insert the actual date of signing on line 3.

IF THERE IS MORE THAN ONE INVENTOR USE PAGE 2 AND PLACE AN "X" HERE ☒

PAGE 2 OF U.S.A. DECLARATION FORM
(Discard this page in a sole inventor application)

Typewritten Full Name
of Second Joint

Inventor (if any) Takayasu NIHIRA
Given Name Middle Initial Family Name

**Inventor's Signature Takayasu Nihira

*Date of Signature February 16 2001
Month Day Year

Residence Funabashi-shi Chiba Japan JPX
City State or Province Country

Citizenship Japanese

Post Office Address c/o Nissan Chemical Industries, Ltd. Central Research Institute, 722-1, Tsuboi-cho.

(Insert completing mailing address, including country) Funabashi-shi, Chiba 274-8507, Japan

Typewritten Full Name
of Third Joint

Inventor (if any) Hideyuki ENDO
Given Name Middle Initial Family Name

**Inventor's Signature Hideyuki Endo

*Date of Signature February 16 2001
Month Day Year

Residence Funabashi-shi Chiba Japan JPX
City State or Province Country

Citizenship Japanese

Post Office Address c/o Nissan Chemical Industries, Ltd. Central Research Institute, 722-1, Tsuboi-cho.

(Insert completing mailing address, including country) Funabashi-shi, Chiba 274-8507, Japan

Typewritten Full Name
of Fourth Joint

Inventor (if any) Hiroyoshi FUKURO
Given Name Middle Initial Family Name

**Inventor's Signature Hiroyoshi Fukuro

*Date of Signature February 16 2001
Month Day Year

Residence Funabashi-shi Chiba Japan JPX
City State or Province Country

Citizenship Japanese

Post Office Address c/o Nissan Chemical Industries, Ltd. Central Research Institute, 722-1, Tsuboi-cho.

(Insert completing mailing address, including country) Funabashi-shi, Chiba 274-8507, Japan

Note to Inventor: Please sign name on line 2 exactly as it appears in line 1 and insert the actual date of signing on line 3.
This form may be executed only when attached to the first page of the Declaration and Power of Attorney of the application to which it pertains.

IF THERE IS FURTHER INVENTOR USE PAGE 3 AND PLACE AN "X" HERE ☒

PAGE 3 OF U.S.A. DECLARATION FORM
(Discard this page in a sole inventor application)

Typewritten Full Name
of Fifth Joint

500 Inventor (if any) Yu NAGASE
Given Name Middle Initial Family Name

**Inventor's Signature [Signature]
*Date of Signature February 14 2001
Month Day Year

Residence Sagamihara-shi Kanagawa Japan JPX
City State or Province Country

Citizenship Japanese

Post Office Address 5-2-8-101, Minamidai, Sagamihara-shi, Kanagawa 228-0814, Japan

(Insert completing mailing
address, including country)

Typewritten Full Name
of Sixth Joint

600 Inventor (if any) Eiich AKIYAMA
Given Name Middle Initial Family Name

**Inventor's Signature [Signature]
*Date of Signature February 14 2001
Month Day Year

Residence Yamato-shi Kanagawa Japan JPX
City State or Province Country

Citizenship Japanese

Post Office Address 2786-4-211, Shimotsuruma, Yamato-shi, Kanagawa 242-0001, Japan

(Insert completing mailing
address, including country)

Typewritten Full Name
of Seventh Joint

700 Inventor (if any) Nobukatsu NEMOTO
Given Name Middle Initial Family Name

**Inventor's Signature [Signature]
*Date of Signature February 14 2001
Month Day Year

Residence Machida-shi Tokyo Japan JPX
City State or Province Country

Citizenship Japanese

Post Office Address 1801, Kohgasaka, Machida-shi, Tokyo 194-0014, Japan

(Insert completing mailing
address, including country)

Note to Inventor: Please sign name on line 2 exactly as it appears in line 1 and insert the actual date of signing on line 3.
This form may be executed only when attached to the first page of the Declaration and Power of Attorney of the application to which it pertains.

ASSIGNMENT

(1-8) Insert Name(s) of Inventor(s)

(1) Yukihiro MIYAMA (5) _____
 (2) Takayasu NIHIRA (6) _____
 (3) Hideyuki ENDO (7) _____ and
 (4) Hiroyoshi FUKURO (8) _____

In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, each undersigned agrees to assign, and hereby does assign, transfer and set over to

(9) Insert Name of Assignee

(9)-1 Nissan Chemical Industries, Ltd.
 (9)-2 Sagami Chemical Research Center
 (10) Insert Address of Assignee

(10)-1 7-1, Kandanishiki-cho 3-chome, Chiyoda-ku, Tokyo 101-0054, Japan
 (10)-2 4-1, Nishi-Onnuma 4-chome, Sagamihara-shi, Kanagawa 229-0012, Japan

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. § 100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, substitute, and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11) Insert Identification, such as Title, Case Number or Foreign Application Number

(11) _____

 (Attorney Docket No. 108669)

for which the undersigned has (have) executed an application for patent in the United States of America on even date herewith or

(12) Insert Date of Signing of Application

(12) on February 16, 2001

(13) Alternative Identification for filed applications

(13) U.S. application Serial Number _____
 filed February 21, 2001

1) Each undersigned agrees to execute all papers necessary in connection with any application and any continuing, divisional or reissue applications for the invention, and any patent(s) issuing thereon, and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.

2) Each undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning any application or continuation or division thereof, or any patent or reissue application based thereon, for the invention, and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.

5) Each undersigned authorizes and requests the Director of Patents to issue any and all Letters Patents of the United States resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreements in conflict herewith, and agrees that this assignment is binding on him and his heirs, successors, and assigns and legal representatives.

6) Each undersigned hereby grants the firm of OLIFF & BERRIDGE, PLC the power of insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date	<u>February 16, 2001</u>	Inventor Signature	<u>Yukihiro Miyama</u>	(SEAL)
Date	<u>February 16, 2001</u>	Inventor Signature	<u>Takayasu Nihiira</u>	(SEAL)
Date	<u>February 16, 2001</u>	Inventor Signature	<u>Hideyuki Endo</u>	(SEAL)
Date	<u>February 16, 2001</u>	Inventor Signature	<u>Hiroyoshi Fukuro</u>	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date _____ Witness _____
 Date _____ Witness _____

ASSIGNMENT

(1-8) Insert Name(s)
of Inventor(s)

(1) Yu NAGASE (5) _____
 (2) Eiichi AKIYAMA (6) _____
 (3) Nobukatsu NEMOTO (7) _____ and
 (4) _____ (8) _____

In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, each undersigned agrees to assign, and hereby does assign, transfer and set over to

(9) Insert Name of Assignee

(9)-1 Nissan Chemical Industries, Ltd.
 (9)-2 Sagami Chemical Research Center

(10) Insert Address of
Assignee

(10)-1 7-1, Kandanishiki-cho 3-chome, Chiyoda-ku, Tokyo 101-0054, Japan
 (10)-2 4-1, Nishi-Onnuma 4-chome, Sagami-hara-shi, Kanagawa 229-0012, Japan

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. § 100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, substitute, and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11) Insert Identification,
such as Title, Case Number
or Foreign Application
Number

(11) _____

 (Attorney Docket No. 108669)

for which the undersigned has (have) executed an application for patent in the United States of America on even date herewith or

(12) Insert Date of Signing of
Application

(12) on February 14, 2001

(13) Alternative Identification
for filed applications

(13) U.S. application Serial Number _____
 filed February 21, 2001

1) Each undersigned agrees to execute all papers necessary in connection with any application and any continuing, divisional or reissue applications for the invention, and any patent(s) issuing thereon, and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.

2) Each undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning any application or continuation or division thereof, or any patent or reissue application based thereon, for the invention, and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.

5) Each undersigned authorizes and requests the Director of Patents to issue any and all Letters Patents of the United States resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreements in conflict herewith, and agrees that this assignment is binding on him and his heirs, successors, and assigns and legal representatives.

6) Each undersigned hereby grants the firm of OLIFF & BERRIDGE, PLC the power of insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date <u>February 14, 2001</u>	Inventor Signature <u>Yu Nagase</u>	(SEAL)
Date <u>February 14, 2001</u>	Inventor Signature <u>Eiichi Akiyama</u>	(SEAL)
Date <u>February 14, 2001</u>	Inventor Signature <u>Nobukatsu Nemoto</u>	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date _____	Witness _____
Date _____	Witness _____